2.0 BACKGROUND

2.1 INTRODUCTION

On March 2, 1995, NMFS issued the 1995 FCRPS Biological Opinion. In that opinion, NMFS determined that the operation of the FCRPS, as proposed by BPA, the Corps, and BOR, would jeopardize the continued existence of threatened and endangered SR spring/summer chinook, fall chinook, and sockeye salmon and would adversely modify their critical habitat. The 1995 FCRPS Biological Opinion, therefore, set out an RPA for the operation and configuration of the hydrosystem to satisfy ESA Section 7(a)(2) requirements. The RPA prescribed measures to increase the survival of juvenile and adult salmonids and initiated the development of a long-term system configuration plan. The RPA focused on three strategies:

1. Addressing scientific uncertainties through research and data analysis
2. Requiring immediate survival improvements in the mainstem corridor through increased voluntary spill, a flow augmentation program, transportation improvements, and other measures
3. Committing to a decision on which intensive improvements, if any, would lead to the eventual survival and recovery of all listed salmonids in the Columbia River basin [At that time, only Snake River stocks were listed.]

The 1995 FCRPS Biological Opinion established a process to address the following information needs for the issues:

1. The survival of juvenile salmonids in the migration corridor
2. The effectiveness of juvenile transportation compared with inriver migration
3. The absolute return rates of transported and inriver juvenile migrants under different flow conditions
4. The effectiveness of new technologies such as surface collection
5. The cost, feasibility, and benefits of drawdown and other system alternatives

In the interim, the 1995 FCRPS Biological Opinion called for transporting all juvenile migrants collected and provided optimum inriver conditions for migrants that are not transported. The 1995 FCRPS Biological Opinion established a regional forum of Federal, state, and Tribal fish and wildlife managers to coordinate day-to-day operations during the migration season. The forum is led by the Implementation Team, which oversees the work of subgroups such as the Technical Management Team (see Section 9).

2.2 SUPPLEMENTAL BIOLOGICAL OPINIONS

On May 14, 1998, NMFS issued the 1998 Supplemental FCRPS Biological Opinion. That ESA Section 7 consultation evaluated the effects of the configuration and operations of the FCRPS on

newly listed threatened and endangered steelhead in the Upper Columbia River, Snake River, and Lower Columbia River ESUs.

In the 1998 Supplemental FCRPS Biological Opinion, NMFS determined that operating the FCRPS in accordance with the Action Agencies' proposed action, including the measures specified in the RPA of the 1995 FCRPS Biological Opinion (the 1995 RPA), would not jeopardize the continued existence of the newly listed steelhead. The 1998 Supplemental FCRPS Biological Opinion established spring flow objectives at Priest Rapids Dam to protect juvenile fish and expanded the spill program at many mainstem hydro projects, but otherwise left the decision-making process and timing for the long term as in the 1995 FCRPS Biological Opinion.

NMFS issued a second supplemental biological opinion on December 9, 1999.[1] That biological opinion evaluated and documented BOR's planned operation to comply with the 1995 RPA prescription to deliver 427 thousand acre-feet (kaf) of upper Snake River water for flow augmentation and to review the operation of all BOR projects in the Snake River system above Lower Granite Dam. Again, the architecture of the long-term, decision-making process was unchanged from that set out in the 1995 RPA.

NMFS issued a last supplemental biological opinion on February 4, 2000.[2] That opinion considered the effects of FCRPS operations on six species that NMFS listed as threatened or endangered in March 1999. NMFS determined that the 1995 RPA, as modified by the 1998 proposed action and combined with a few additional interim measures, would not jeopardize the continued existence of any of the newly listed species for the rest of the interim period. The decision-making process and timing for the long term, again, remained consistent with the 1995 FCRPS Biological Opinion.

[1] "Biological Opinion—Bureau of Reclamation Operations and Maintenance of its Projects in the Snake River Basin Above Lower Granite Dam: A Supplement to the Biological Opinions Signed on March 2, 1995, and May 14, 1998" (NMFS 1999b).

[2] "Supplemental Biological Opinion—Operation of the Federal Columbia River Power System Including the Juvenile Fish Transportation Program: A Supplement to the Biological Opinions Signed on March 2, 1995, and May 14, 1998, for the Same Projects" (NMFS 2000d).

2.3 DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Corps issued a draft environmental impact statement (EIS) describing alternative configurations and operations of the FCRPS in the lower Snake River for comment during December 1999 (Corps 1999b). The draft EIS was a requirement of the 1995 RPA.

2.4 CURRENT CONSULTATION

After the Corps issued the draft EIS, the Action Agencies reinitiated consultation on the long-term configuration of the hydrosystem by submitting their final biological assessment to NMFS on December 21, 1999.[3] NMFS consulted with the Action Agencies, in coordination with USFWS, and transmitted a draft biological opinion to these agencies on May 17, 2000 (NMFS 2000a). After considering comments from the Action Agencies, as well as other Federal agencies, NMFS issued a revised draft biological opinion, dated July 27, 2000, for review by the state and Tribal comanagers and other interested parties.

2.5 MEETINGS WITH STATE AND TRIBAL REPRESENTATIVES

NMFS held a series of meetings with state and Tribal comanagers that began on February 2, 2000. The Implementation Team and the Columbia Basin Fish and Wildlife Authority (CBFWA) coordinated the meetings, which included affected agencies and Tribes that do not participate in the Regional Forum. NMFS also briefed the Northwest Power Planning Council (NWPPC) and engaged in subsequent discussions with NWPPC members. During those meetings, the comanagers and others commented on the technical elements of the proposed action and potential RPA measures.

NMFS invited consultation with the 13 Sovereign Tribes of the Columbia River basin in a letter from B. Brown. The letter, dated January 26, 2000, was faxed and mailed to each Tribal chairman. Copies were also transmitted to the Columbia River Inter-Tribal Fish Commission (CRITFC), the Upper Columbia United Tribes (UCUT), CBFWA, and NWPPC. NMFS invited each Tribe to participate in the ESA Section 7 consultation with the Action Agencies to develop the 2000 FCRPS Biological Opinion. The letter recognized that Tribal rights and Tribal trust resources could be affected by NMFS' findings and recommendations and actively solicited Tribal expertise in developing analyses of effects, biological requirements, and mitigation strategies for listed salmon and steelhead. NMFS also offered to meet individually with the Tribes on a government-to-government basis. In response to this invitation, NMFS met with the Burns Paiute, Coeur d'Alene, Colville Confederated, Kalispel, Kootenai, Confederated Salish & Kootenai, Nez Perce, Shoshone-Bannock, Shoshone-Pauite, Spokane, and Umatilla Tribes and the Yakama Nation and with representatives of UCUT and CRITFC. Dates and locations of staff- and executive-level meetings are shown in Table 2.5-1.

[3] "Multi-Species Biological Assessment of the Federal Columbia River Power System" (BPA et al. 1999)

Table 2.5-1. Consultation and conferencing with Columbia Basin Tribes on development of Draft 2000 FCRPS Biological Opinion and Basinwide Recovery Strategy.

Location	Executive-Level	Staff-Level
Washington, D.C.	1/24 and 25/2000	–
Helena, Montana	--	2/25/2000
Spokane, Washington	3/8 and 3/24/2000	2/9 and 3/16/2000
Orofino, Idaho	--	3/10/2000
Lewiston, Idaho	3/14/2000	--
Olympia, Washington	3/29/2000	--
Portland, Oregon	4/3/2000	1/13, 3/29, 4/7, 4/14, 4/17, and 6/7, 2000

NMFS met with the Tribes in a series of technical-level planning and policy-level Tribal council meetings during the comment period for the draft biological opinion issued on July 27, 2000. The purpose of the planning meetings was to identify issues that the respective Tribal governments (or their representatives) would want to discuss at subsequent policy-level meetings. The dates and locations of these meetings, and the Tribes involved, are shown in Table 2.5-2.

The Tribes asked the Federal agencies to designate a lead agency for historic preservation and to explain how cultural resource issues would be addressed. In response, the Federal Caucus discussed designating a lead agency to manage cultural resources related to Basinwide Recovery Strategy actions. The consensus was that Basinwide Recovery Strategy implementation would trigger individual agency responses to the National Historic Preservation Act (NHPA), at which point a lead agency (or agencies) would assume coordination responsibility. The Federal Caucus agreed, therefore, that a regional, multiagency, Tribal, state, and local forum should be formed to keep track of overall implementation. Beginning in late summer 2000, Federal Caucus representatives conveyed these findings to the Tribes and received comments and suggestions. The Federal Caucus will continue to consult and coordinate with the Tribes and plans to integrate a forum on historic preservation and cultural resources into the restoration programs.

Table 2.5-2. Technical and policy level meetings with the Columbia Basin Tribes on Draft 2000 FCRPS Biological Opinion and Basinwide Recovery Strategy issued on July 27, 2000.

Tribe(s)	Location	Date
Technical-Planning Meetings		
Burns Paiute, Shoshone-Paiute, and Shoshone-Bannock	Boise, Idaho	9/20/2000
Colville	Nespelem, Washington	8/22-23/2000
Coeur d'Alene and Kootenai[1]	Spokane, Washington	9/22/2000
Nez Perce[2]	–	–
Spokane	Spokane, Washington	8/15/2000
Warm Springs	Warm Springs Reservation	9/18/2000
Umatilla[2]	–	–
Yakama	Yakama Reservation	10/3/2000
Policy-Level Council Meetings		
Burns Paiute, Shoshone-Paiute, and Shoshone-Bannock	Ft. Hall Reservation	10/24/2000
Colville	Spokane, Washington	9/27/00
Coeur d'Alene and Kootenai (policy+technical)[1]	Plummer, Idaho	11/8/2000
Nez Perce[2]	–	–
Spokane	Wellpinit, Washington	9/25/2000
Warm Springs[3]	–	–
Umatilla[2]	–	–
Yakama	Yakama Reservation	10/17/2000

[1] The Kalispel and Confederated Salish and Kootenai Tribes were invited to this meeting but did not participate.
[2] The Nez Perce and Umatilla Tribes have indicated that they wish to defer technical planning and/or policy-level meetings until they have completed their reviews of the draft biological opinion and Basinwide Recovery Strategy and have submitted comments. They also have indicated that policy-level meetings would be more appropriate after NMFS has had an opportunity to review the Tribal comments. NMFS, by letter, stated that it understood the Tribal position and was prepared to meet at some future date. No date has been established.
[3] The Warm Springs Tribal staff has indicated a desire to host a policy-level consultation meeting in the future. As of this writing, no date has been established.

2.6 FEDERAL REVIEW TEAMS FOR THIS CONSULTATION

2.6.1 The Biological Effects Team

The Biological Effects Team was charged with estimating the effects of current operations and potential future configurations and operations on the survival of listed juvenile outmigrants. NMFS used this information to analyze the listed species' biological requirements in the action area (Section 6.1.1), as well as at the species level (Section 6.1.2). The team included Federal biologists and engineers representing NMFS, the Corps, and BPA. NMFS Hydro Program staff then completed the biological effects analysis.

For juvenile fish using the mainstem Columbia and Snake rivers as a migration corridor, simulation modeling is the primary method used to evaluate the effects of the proposed action on the action area biological requirements. The Biological Effects Team agreed to use NMFS' simulated passage (SIMPAS) model to evaluate the biological benefits of juvenile salmonid passage measures. SIMPAS is a fish passage accounting model that apportions the run to various passage routes (i.e., turbines, fish bypass system, sluiceway/surface bypass, spillway, and/or fish transportation) based on empirical data and input assumptions for fish passage parameters.

The Biological Effects Team reviewed and analyzed the fish passage assumptions NMFS used in earlier fish passage modeling exercises, those developed in the Plan for Analyzing and Testing Hypotheses (PATH) process, and the most recent empirical data to determine the fish passage parameters for input into the SIMPAS model. The team also used the latest compilation of fish passage information from the four white papers the Northwest Fisheries Science Center (NWFSC) recently prepared on 1) "Passage of Juvenile and Adult Salmonids Past Columbia and Snake River Dams," 2) "Predation on Salmonids Relative to the Federal Columbia River Power System," 3) "Salmonid Travel Time and Survival Related to Flow in the Columbia River Basin," and 4) "Summary of Research Related to Transportation of Juvenile Anadromous Salmonids Around Snake and Columbia River Dams" (NMFS 2000e,f,h,i).

The Biological Effects Team reviewed spill and fish guidance efficiency, spill/gas caps, turbine, spillway, sluiceway, and bypass system survival, and diel passage patterns. Those parameters were quantified for each FCRPS dam and for both spring and fall chinook salmon (considered indicator species for the spring and summer passage seasons, respectively).

As a result of the collaborative analytical effort, on March 20, 2000, the team prepared and sent out a review draft report to the 13 Tribes and other regional fisheries comanagers. The draft documented preliminary results of SIMPAS model runs incorporating current passage conditions (and alternative proposed future actions under consideration in the 2000 ESA Section 7 consultation process).

2.6.2 Hydroregulation (Modeling) Team

The Hydroregulation Modeling Team was formed by the Federal agencies during the ESA Section 7 consultation process and charged with conducting hydroregulation modeling studies to simulate alternative river operations and the costs of such operations for the Columbia River hydrosystem. The team included Federal system analysts, engineers, and biologists representing NMFS, the Corps, BPA, BOR, and USFWS. BPA assessed the effects and estimated costs of alternative future water management actions for both NMFS and USFWS biological opinion operations by using its HYDSIM hydroregulation model and a series of power market pricing and marketing models. The HYDSIM model simulates flow/reservoir management and fish spill operations on a monthly basis at FCRPS and other Columbia Basin projects to meet an array of purposes, including flood control, anadromous and resident fish protection, projected energy loads, Columbia Basin Treaty obligations, and other project-specific, nonpower requirements. Model outputs include mean monthly discharge at various project locations, including those for which NMFS has set flow objectives (Priest Rapids, McNary, Bonneville, and Lower Granite dams), as well as end-of-month reservoir elevations for the major storage projects.

More than 30 system hydroregulation studies of various operational alternatives were conducted and reviewed by the Hydroregulation Modeling Team. The Section 7 consultation team selected a final modeling scenario to analyze both the NMFS and USFWS biological opinions, including a base case study. The base case model study placed priority on meeting the reservoir operating provisions specified in NMFS' 1995 and 1998 Supplemental FCRPS Biological Opinions and the USFWS' 1995 Biological Opinion on Kootenai River sturgeon. Subsequent modeling scenarios evaluated the effects of including the VARQ modified flood control curves, deeper reservoir drafts at selected FCRPS projects, and increasing the discharge from Mica and/or Revelstoke projects during the summer. The final hydroregulation study evaluated near-term implementation of the RPA, including deeper drafts at certain FCRPS storage projects, VARQ flood control operation, biological opinion spill levels, and fall spawning flows below Bonneville Dam.

HYDSIM model output consisted of a monthly flow detail and a summary of the effect of project operations by enumerating the frequency with which the NMFS flow objectives are met on a monthly and seasonal basis at Lower Granite, Priest Rapids, McNary, and Bonneville dams. The effect of flow operations on the frequency with which storage reservoirs would achieve upper (flood control) rule curve elevation on April 10 and refill by June 30 was also summarized. See Section 9.7.1.3 for a detailed summary of hydroregulation modeling results.

2.6.3 Performance Standards Team

The Performance Standards Team was another team formed by the Federal agencies during the Section 7 consultation process. The team was composed of members from NMFS, USFWS, BPA, the Corps, and BOR. It was charged with developing a set of performance measures and associated goals or standards that NMFS and the region could use to judge the success of the

salmon recovery effort. The team began meeting in January 2000. Its work culminated in a draft report entitled, "Development of Provisional Performance Measures and Standards for Federal Hydrosystem Impacts in the Columbia River Basin," which was released to regional fishery agencies and Tribes for review on March 24, 2000. In its paper, the team developed a process for formulating performance measures in the context of three major objectives:

1. It proposed a procedure for placing hydrosystem-related performance measures and standards in the context of performance measures and standards for other, nonhydrosystem actions affecting various life-history stages.
2. It developed a suite of provisional performance measures and standards applicable to hydrosystem-related actions, including performance measures for FCRPS hydrosystem activities and for natural survival.
3. It developed a blueprint for revising the hydrosystem-related performance measures and standards in the context of mitigation measures using nonhydrosystem actions, i.e., as part of a comprehensive recovery planning effort addressing habitat, harvest, hatcheries, and hydropower.

After the report was released, NMFS built on the efforts of the team in developing and selecting population-level measures of salmon survival and recovery for each species and hydrosystem performance measures, presented in Section 1.3.1.1.

2.6.4 Water Quality Team

The Federal agencies formed the Water Quality Team during the ESA Section 7 consultation process. The team consisted of members from NMFS, USFWS, BPA, the Corps, BOR, and the U.S. Environmental Protection Agency (EPA). It was charged with development of a water quality plan for the mainstem Columbia and Snake rivers. The team also began meeting in January 2000. Its efforts culminated in a paper entitled, "Development of a Water Quality Plan for the Columbia River Mainstem: A Federal Agency Proposal." It is included in this biological opinion as Appendix B.

The water quality plan includes basinwide goals for total dissolved gas (TDG) and water temperature in the Columbia River basin. In its paper, the team outlined how a water quality plan could be developed and implemented in the basin. The team developed a water quality planning process for deciding on both structural and operational water quality measures. The strategy of the water quality plan is to identify ongoing activities and planned-for improvements in fish survival that also serve to improve water quality by reducing TDG and water temperature. The team addressed long-term structural, operational, and procedural measures for water quality improvements, as well as details concerning the process for developing a water quality plan (Appendix B).

2.7 RELATED REGIONAL FORUMS

NMFS developed its biological opinion on the effects of FCRPS operations in coordination with other ongoing Federal and regional processes. The process is described in the following sections.

2.7.1 Federal Caucus/Basinwide Recovery Strategy

The Federal Caucus includes NMFS, the Corps, BOR, BPA, EPA, the Bureau of Indian Affairs (BIA), the Bureau of Land Management (BLM), USFWS, and the U.S. Forest Service (USFS). The primary role of the Federal Caucus has been to develop a comprehensive multispecies conceptual recovery plan that describes a range of potential Federal activities that could meet ESA obligations and rebuild Columbia basin stocks (Basinwide Recovery Strategy). Non-Federal (Tribal, state, local, and private) activities are also considered in the Basinwide Recovery Strategy to the extent that they can contribute to the recovery of ESA-listed species in the Columbia River basin. Recovery options are considered and analyzed across actions affecting each life stage of ESA-listed fish: habitat, hatcheries, harvest, and the hydropower system. These options are broadly described for the purpose of engaging a regional discussion.

After the draft Basinwide Recovery Strategy was released, the Federal Caucus engaged in government-to-government consultations with 13 Native American Tribes in the Columbia River basin. In addition, more than 9,000 Pacific Northwest citizens testified in 15 public hearings. The Federal Caucus also received more than 60,000 written comments. On the basis of the feedback, the Federal Caucus is attempting to balance and respect multiple competing interests, including the needs of anadromous and resident aquatic species, Tribal trust and treaty obligations, international commitments, and the economic and cultural concerns of all citizens in the region.

The Basinwide Recovery Strategy attempts to balance these issues by recommending new, intensive measures basinwide and across the salmon and steelhead life cycle. It builds on existing measures for better balance and bolsters non-Federal decisions and actions with Federal support and funding. It recognizes the need to consider the broader cultural concerns of threatened and endangered species recovery. It links discrete actions across the ecosystem and the life stages of salmon and steelhead to connect biology and ecology basinwide. These actions will also benefit resident fish and other aquatic species.

The Basinwide Recovery Strategy serves four major purposes. First, it provides an overall, conceptual recovery strategy encompassing threatened and endangered aquatic species affected by the FCRPS. Second, it establishes a context for the new biological opinions on the operation and configuration of Federal dams issued by NMFS and USFWS. It shows how the actions called for in the hydrosystem fit with other related recovery initiatives or ongoing policies in the Columbia River basin. Third, the draft Basinwide Recovery Strategy provides a tool for engaging and informing the general public about the issues affecting salmon and steelhead, resident fish, and other aquatic species, and the policy choices under consideration in the effort to

recover them. Fifteen public hearings and seven scientific workshops were conducted after the draft was released, representing an unprecedented opportunity for the public to participate in the formation of natural resource management policies. Fourth, as a product of the Federal Caucus, the Basinwide Recovery Strategy served as an organizing tool for the Federal agencies involved to align their programs and activities to ensure maximum coordination and policy uniformity from the Federal perspective. The Basinwide Recovery Strategy is not a decision document. Its content is neither regulatory nor binding in nature. Rather, it presents a set of strategies, goals, and overall direction toward which the agencies in the Federal Caucus will commit to move their programs and policies.

In making decisions to correct the decline of anadromous fish and steelhead, as well as other listed fish and wildlife resources, the Federal Caucus will comply fully with all applicable Federal laws and executive orders. These include, but are not limited to, NEPA, ESA, CWA, and NHPA, as well as trust responsibilities applicable to the unique and longstanding relationship between the U.S. government and the region's federally recognized Indian Tribes.

2.7.2 Plan for Analyzing and Testing Hypotheses

PATH is a structured program of formulating and testing hypotheses involving the fundamental biological issues surrounding recovery of ESA-listed salmon and steelhead in the Columbia River basin. The PATH decision analysis focused on alternative hydrosystem actions that could be used to prevent the extinction of and aid in the recovery of SR spring/summer and fall chinook salmon. The work of the PATH group underlies the life cycle analyses used in this biological opinion for those ESUs.

2.7.3 Cumulative Risk Initiative

The CRI is a network of NMFS scientists working to synthesize information and provide clear, consistent, and scientifically rigorous decision support for salmonid conservation. The CRI process of the NMFS NWFSC has used matrix modeling of salmonid population dynamics to evaluate extinction risks and the sensitivity of population growth for each ESU to changes in survival in specific life-history stages as a result of management actions. In this biological opinion, the analysis was used to determine potential combinations of basinwide strategies to achieve the biological objectives related to recovery of ESA-listed species.

To involve, obtain input from, and inform both the technical scientific community and the community of policymakers, NWFSC established a series of workshops. The audience alternated between highly technical experts in specialized areas and a mix of policy and technical participants. Table 2.7-1 outlines the workshop schedule.

Table 2.7-1. CRI workshop schedule.

Date	Purpose	Level
Jul. 22-23, 1999	Technical introduction to CRI analytical approach	Technical
Aug. 31, 1999	Putting Basinwide Recovery Strategy together	Technical and policy
Sept. 29-30, 1999	Assessing productivity of habitats with respect to salmon populations	Technical
Oct. 27, 1999	Data-poor, rapid analysis assessments for other ESUs in Columbia River system	Technical and policy
Dec. 7-8, 1999	Spatial analyses	Technical
Mar. 29, 2000	Cosponsored by American Rivers	Technical and policy
Sept. 19, 2000	Recovery planning: CRI risk calculations and assessing habitat options	Technical

2.7.4 NMFS White Papers

In October 1999, NMFS synthesized existing information on salmonid passage through the FCRPS in four white papers that discussed dam passage, transportation, flow/survival relationships, and predation, respectively. The papers also characterized uncertainties associated with existing data and raised in recent analyses by regional forums. The papers were released for regional review and comment.

After the regional review, the white papers were modified to reflect comments and information from numerous reviewers and resource agencies. Contributors include the Oregon Department of Fish and Wildlife (ODFW), USFWS, Idaho Department of Fish and Game, Columbia Basin Fish and Wildlife Authority, Washington Department of Fish and Wildlife (WDFW), CRITFC, U.S. Geological Survey (USGS), Fish Passage Center, Idaho Water Users Association, Inc. (IWUA), and IDACORP, Inc. The four modified papers are now available on the NWFSC home page (web site: www.nwfsc.noaa.gov/pubs/nwfscpubs.html).

2.7.5 Quantitative Analysis

NMFS, in cooperation with other parties, is developing the quantitative analysis report (QAR) for the listed species that may be affected by the non-Federal, mid-Columbia projects (i.e., those operated by the public utility districts (PUDs) of Douglas, Chelan, and Grant counties. The QAR is a quantitative assessment of the biological requirements and likelihood of survival and recovery for endangered UCR spring chinook salmon and endangered UCR steelhead. As with PATH, much of the work of the QAR group underlies the life cycle analyses in this biological opinion for those ESUs.

2.7.6 Northwest Power Planning Council's Multispecies Framework Project/Ecosystem Diagnosis and Treatment Analysis

NWPPC's Multi-Species Framework Project is developing visions, strategies, and alternatives for recovering fish and wildlife resources in the Columbia River basin and analyzing the biological and social/human effects of alternatives. The Hydro Work Group of the Federal Caucus and the Framework Project staff jointly evaluated alternative measures for system configuration and operations and agreed to the specifications of those measures in seven Framework Project alternatives and three Federal scenarios. The joint group also coordinated the analysis of hydrosystem operations, the biological studies and evaluations, and other Federal and Framework Project tasks related to the hydrosystem.

The Framework Project will characterize a set of alternative futures for the Columbia River basin that focus on a long-term vision for the region. The Framework Project uses an analytical technique called ecosystem diagnosis and treatment (EDT) to compare the ecological effects of various alternatives and describe their economic, social, and cultural impacts. The analysis focuses on long-term conditions and emphasizes habitat actions.